



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2021-1078; Project Identifier MCAI-2020-01574-R; Amendment 39-22014; AD 2022-08-11]

RIN 2120-AA64

Airworthiness Directives; Bell Textron Canada Limited Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Bell Textron Canada Limited Model 429 helicopters. This AD was prompted by in-service reports of the loss of display and subsequent recovery of certain display units (DUs). This AD requires revising the existing rotorcraft flight manual supplement (RFMS) for your helicopter and disabling the traffic alert and collision avoidance system (TCAS) POP-UP feature for certain DUs. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain document listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: For service information identified in this final rule, contact Bell Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J 1R4, Canada; telephone 1-450-437-2862 or 1-800-363-8023; fax 1-450-433-0272; email productsupport@bellflight.com; or at <https://www.bellflight.com/support/contact-support>. You may view the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110. It is also available at <https://www.regulations.gov> by searching for and

locating Docket No. FAA-2021-1078.

Examining the AD Docket

You may examine the AD docket at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-1078; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the Transport Canada AD, any comments received, and other information. The street address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Darren Gassetto, Aerospace Engineer, COS Program Management Section, FAA, Operational Safety Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone (516) 228-7323; email Darren.Gassetto@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to Bell Textron Canada Limited Model 429 helicopters, serial numbers 57001 through 57369 inclusive, 57371, and 57373. The NPRM published in the *Federal Register* on December 28, 2021 (86 FR 73708; corrected January 10, 2022 (87 FR 1083)). In the NPRM, the FAA proposed to require revising the existing RFMS for your helicopter and disabling the TCAS POP-UP feature for certain DUs. The NPRM was prompted by Transport Canada AD CF-2020-18R1, dated November 27, 2020 (Transport Canada AD CF-2020-18R1), issued by Transport Canada, which is the aviation authority for Canada, to correct an unsafe condition for Bell Textron Canada Limited Model 429 helicopters, serial numbers 57001 through 57369, 57371, and 57373. Transport Canada advises that it has received in-service reports of the loss of display and subsequent recovery of the DU manufactured by Rogerson Kratos (RK). During an instrument flight rules approach, a Bell Textron Canada Limited Model 429 helicopter lost its center DU display, which then rebooted, and subsequently lost its right-hand side (RHS) DU display, which then also rebooted. Investigation revealed that the

DUs' power cycle occurred while in Map-Mode, which was caused by the RK DUs' limited processing capability for excessive null waypoints generated by the Garmin GTN 750/650 GPS/NAV/COMM/MFD.

Transport Canada also advises that the use of Map-Mode to the center DU should be limited only for Bell Textron Canada Limited Model 429 helicopters equipped with RK DUs and Garmin GTN 750/650 main software version 6.21 or later and that the use of Map-Mode should be prohibited on both the RHS DU and left-hand side DU, if installed. In addition, Transport Canada advises that a new emergency and malfunction procedure in the event of center DU failure should be implemented. If not addressed, a DU power cycle occurring during flight and consequent momentary loss of display information on the primary flight display and other DUs could result in the unexpected loss of display of important flight parameters to the pilots, including attitude, approach, airspeed, altitude, flight director information, navigation system cues, as well as engine and rotor drive system indications.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from one commenter, Bell Textron Canada Limited. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request to Revise Figures 1 and 2 to Paragraph (g) to Match the RFMS

Bell Textron Canada Limited requested that the limitations specified in figures 1 and 2 to paragraph (g) of the proposed AD be revised to reflect the limitations identified in Bell Alert Service Bulletin 429-20-51, Revision B, dated July 17, 2021; and Bell 429 Rotorcraft Flight Manual Supplement BHT-429-FMS-19, Revision 7, dated December 14, 2021. The commenter noted that the unsafe condition identified in the NPRM is only present when Garmin GTN 650/750 main software version 6.21 or later is installed because these software versions introduce an increased number of waypoints that can be displayed, which is beyond the memory capability of the RK DU. In addition, the commenter explained that the Garmin main software version is obvious to the pilot because it is displayed on the GTN 650/750 "splash" screen when the DUs are powered-

up and can be easily accessed prior to flight through the GTN 650/750 configuration pages.

The FAA partially agrees with the commenter's request. The FAA agrees with revising the limitations specified in figures 1 and 2 to paragraph (g) of this AD to reflect the Garmin GTN 650/750 main software versions specified in Bell 429 Rotorcraft Flight Manual Supplement BHT-429-FMS-19, Revision 7, dated December 14, 2021, because the unsafe condition is limited to Garmin GTN 650/750 main software version 6.21 or later, and the flight crew can determine the software version from the DUs and not from memory or running a diagnostic program. The FAA has revised figures 1 and 2 to paragraph (g) of this AD accordingly. The FAA notes that Bell Alert Service Bulletin 429-20-51, Revision B, dated July 17, 2021, refers to an older revision of the Bell 429 Rotorcraft Flight Manual Supplement BHT-429-FMS-19, which does not include all of the clarifying information regarding the affected manufacturer and software versions.

Request to Revise Figure 3 to Paragraph (g) to Specify the RK DU Configuration

Bell Textron Canada Limited requested that figure 3 to paragraph (g) of the proposed AD be revised to specify that the revision to the Emergency and Malfunction Procedures (section 3) of the existing RFMS applies to a center DU with the RK DU configuration. The commenter explained that Bell 429 Rotorcraft Flight Manual Supplement BHT-429-FMS-19, Revision 7, dated December 14, 2021, included a revision to Section 3-14-B., CENTER DU FAILURE, to clarify that the Emergency and Malfunction Procedure applied only to the RK DU configuration.

The FAA agrees with the commenter's request and has revised paragraph (g) of this AD and figure 3 to paragraph (g) of this AD to specify that the Emergency and Malfunction Procedures apply to a center DU with the RK DU configuration. The FAA contacted Transport Canada, the State of Design Authority for Bell Textron Canada Limited Model 429 helicopters, and confirmed that the Emergency and Malfunction Procedures are applicable only to a center DU with the RK DU configuration.

Request to Revise Note 1 to Paragraph (g) to Refer to a Later Revision of the RFMS

Bell Textron Canada Limited requested that Note 1 to paragraph (g) be revised to refer to only Bell 429 Rotorcraft Flight Manual Supplement BHT-429-FMS-19, Revision 7, dated December 14, 2021. The commenter explained that this revision level provides additional clarifying information regarding the manufacturer and software versions affected by the unsafe condition identified in the NPRM.

The FAA agrees with the commenter's request for the reason provided by the commenter and because the FAA has additionally agreed to certain changes in the information presented in figures 1, 2, and 3 to paragraph (g) of this AD in response to the commenter's previous comments regarding the RFMS revision. In the proposed AD Note 1 to paragraph (g) was as follows: "Note 1 to paragraph (g): The information in the 'CENTER DU FAILURE' specified in figure 3 to paragraph (g) of this AD can be found in Bell 429 Rotorcraft Flight Manual Supplement BHT-429-FMS-19, Revisions 3, 4, 5, and 6." In this AD the FAA revised Note 1 to paragraph (g) to refer to Bell 429 Rotorcraft Flight Manual Supplement BHT-429-FMS-19, Revision 7, dated

December 14, 2021, and to include the pertinent changes that resulted from the other Bell Textron Canada Limited comments previously discussed.

Changes Since the NPRM was Issued

After the NPRM was issued, Transport Canada issued Transport Canada AD CF-2020-18R2, dated January 27, 2022 (Transport Canada AD CF-2020-18R2), which superseded Transport Canada AD CF-2020-18R1. Transport Canada AD CF-2020-18R2, mandates incorporation of Bell 429 Rotorcraft Flight Manual Supplement BHT-429-FMS-19, Revision 7, dated December 14, 2021, which specifies disabling the TCAS POP-UP feature for certain DUs. That action was included in the proposed AD requirements, and in the NPRM preamble, was identified in the Differences Between this Proposed AD and the Transport Canada AD section because it was not included in Transport Canada AD CF-2020-18R1 but was included in the proposed AD requirements. That difference has been removed from this final rule.

Conclusion

These helicopters have been approved by the aviation authority of Canada and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with Canada, Transport Canada, its technical representative, has notified the FAA of the unsafe condition described in its AD. The FAA reviewed the relevant data, considered the comments received, and determined that, except for the changes described previously, air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on these helicopters. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Related Service Information Under 1 CFR Part 51

The FAA reviewed Bell Alert Service Bulletin 429-20-51, Revision B, dated July 17, 2021, which specifies procedures for disabling the TCAS POP-UP feature for certain DUs. This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Differences Between this AD and the Transport Canada AD

Transport Canada AD CF-2020-18R2 requires operators to “advise all flight crews” of the changes introduced by the RFMS revision. However, this AD does not specifically require that action. 14 CFR 91.9 requires that no person may operate a civil aircraft without complying with the operating limitations specified in the RFMS. Therefore, including a requirement in this AD to operate the helicopter according to the revised RFMS would be redundant and unnecessary. Further, compliance with such a requirement in an AD would be impracticable to demonstrate or track on an ongoing basis; therefore, a requirement to operate the helicopter in such a manner would be unenforceable. The flight manual supplement changes in this AD also apply to the emergency and malfunction procedures section of the existing RFMS for your helicopter. FAA regulations mandate compliance only with the operating limitations section of the flight manual. Nonetheless, the FAA recommends that flight crews of the helicopters listed in the applicability operate in accordance with the revised emergency and malfunction procedures specified in this AD.

Costs of Compliance

The FAA estimates that this AD affects 88 helicopters of U.S. Registry. Labor rates are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates the following costs to comply with this AD.

Revising the existing RFMS for your helicopter takes about 1 work-hour for an estimated cost of \$85 per helicopter and \$7,480 for the U.S. fleet.

Disabling the TCAS POP-UP feature for your helicopter takes about 0.5 work-hours for an estimated cost of \$43 per helicopter and \$3,784 for the U.S. fleet.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by

prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2022-08-11 Bell Textron Canada Limited: Amendment 39-22014; Docket No. FAA-2021-1078; Project Identifier MCAI-2020-01574-R.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER

DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Bell Textron Canada Limited Model 429 helicopters, certificated in any category, serial numbers 57001 through 57369 inclusive, 57371, and 57373.

(d) Subject

Joint Aircraft Service Component (JASC) Code: 3100, Indicating/Recording System.

(e) Unsafe Condition

This AD was prompted by in-service reports of the loss of display and subsequent recovery of certain display units (DUs). The FAA is issuing this AD to address a DU power cycle occurring during flight and consequent momentary loss of display information on the primary flight display and other DUs, which if not addressed, could result in the unexpected loss of display of important flight parameters to the pilots, including attitude, approach, airspeed, altitude, flight director information, navigation system cues, as well as engine and rotor drive system indications.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Revising the Rotorcraft Flight Manual Supplement (RFMS)

Within 30 days after the effective date of this AD: Revise the Types of Operation - Limitations (section 1-3-A.) of the existing RFMS for your helicopter to include the information in the “Limitations” specified in figure 1 to paragraph (g) of this AD, revise the Configuration (section 1-5.) of the existing RFMS for your helicopter to include the information in the “Configuration” specified in figure 2 to paragraph (g) of this AD, and revise the Emergency and Malfunction Procedures (section 3) of the existing RFMS for your helicopter to include the information in the “CENTER DU FAILURE (RK CONFIGURATION)” specified in figure 3 to paragraph (g) of this AD.

Figure 1 to paragraph (g) – Limitations revision

1-3-A. LIMITATIONS

Safe Taxi® and Chart View, if installed, shall not be used as primary means for flight crews to orient themselves on the airport surface.

Use of the GTN for primary navigation for latitudes above 89.00°N and below 89.00°S is not authorized.

With Garmin main software 6.21 or later, MAP mode on the Pilot and Co-pilot (if installed) Rogerson Kratos (RK) DU shall not be selected as this may cause a power cycle of the DU.

With Garmin main software 6.21 or later, MAP mode on the center RK DU shall not be selected during a DME Arc approach, as this may cause a power cycle of the DU.

With Garmin main software 6.21 or later and optional search pattern kit enabled, MAP mode on the center RK DU shall not be selected during search pattern operations. Excessive search pattern legs in DU MAP mode may cause a power cycle of the DU.

The SD card or Flight Stream 510 (MMC) shall be present in each unit at all times.

Demo mode shall not be used in flight.

Figure 2 to paragraph (g) – Configuration revision

1-5. CONFIGURATION

Garmin GTN 750/650 main software shall be Version 4.00 with GPS software 5.00 or main software 6.21 with GPS software 5.2, or main software 6.62 with GPS software 5.2.

Flight Stream 510, if installed, shall be version 2.32 or later.

Both GTN units shall have the same software versions.

With Garmin main software 6.21 or later, TCAS POP-UP mode shall be DISABLED on the Rogerson Kratos (RK) DU.

Figure 3 to paragraph (g) – Emergency and Malfunction Procedures revision

**3-14-B. CENTER DU FAILURE
(RK CONFIGURATION)**

- **INDICATIONS:**

DU screen momentarily goes blank.

Pilot and Co-pilot (if installed) DU goes into composite mode.

- **PROCEDURE:**

NOTE

MAP mode on center DU is defaulted ON with Weather Radar (if installed).

Center DU — Deselect MAP mode.

Pilot/Copilot DU — Select flight mode, as desired.

Note 1 to paragraph (g): The information in the “Limitations” specified in figure 1 to paragraph (g), “Configuration” specified in figure 2 to paragraph (g), and “CENTER DU FAILURE (RK CONFIGURATION)” specified in figure 3 to paragraph (g) of this AD can be found in Bell 429 Rotorcraft Flight Manual Supplement BHT-429-FMS-19, Revision 7, dated December 14, 2021.

(h) Disabling the Traffic Alert and Collision Avoidance System (TCAS) POP-UP Feature

Within 30 days after the effective date of this AD: Disable the TCAS POP-UP mode, including those helicopters equipped with the TCAS kit, in the parameter setup page on all RK DUs, in accordance with paragraph 3. of the Accomplishment Instructions of Bell Alert Service Bulletin 429-20-51, Revision B, dated July 17, 2021.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the International Validation Branch, send it to the attention of the person identified in paragraph (j)(1) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(j) Related Information

(1) For more information about this AD, contact Darren Gassetto, Aerospace Engineer, COS Program Management Section, FAA, Operational Safety Branch, Compliance & Airworthiness Division, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone (516) 228-7323; email Darren.Gassetto@faa.gov.

(2) The subject of this AD is addressed in Transport Canada AD CF-2020-18R2, dated January 27, 2022. You may view the Transport Canada AD at <https://www.regulations.gov> in Docket No. FAA-2021-1078.

(3) Bell 429 Rotorcraft Flight Manual Supplement BHT-429-FMS-19, Revision 7, dated December 14, 2021, which is not incorporated by reference, contains additional information about the subject of this AD. This service information is available at the contact information specified in paragraphs (k)(3) and (4) of this AD.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Bell Alert Service Bulletin 429-20-51, Revision B, dated July 17, 2021.

(ii) [Reserved]

(3) For service information identified in this AD, contact Bell Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J 1R4, Canada; telephone 1-450-437-2862 or 1-800-363-8023; fax 1-450-433-0272; email productsupport@bellflight.com; or at <https://www.bellflight.com/support/contact-support>.

(4) You may view this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX

76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email: fr.inspection@nara.gov, or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on April 5, 2022.

Derek Morgan, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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